AFRICAN-AMERICAN MALES AND PROSTATE CANCER: ASSESSING KNOWLEDGE LEVELS IN THE COMMUNITY

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Although the available evidence indicates that African-American males are at risk for developing prostate cancer, little is known about the level of awareness among African Americans about prostate cancer or how receptive they are to screening. This study examined the level of knowledge African-American males have about prostate cancer and the factors affecting knowledge levels. Face-to-face interviews were conducted among a sample of African-American males older than 25 years. All respondents were asked if they knew what prostate cancer was (N=897), and those older than age 40 (N=556) answered a series of seven questions related to prostate cancer. An index was created that reflected respondents' level of knowledge about prostate cancer. Slightly more than 19% of the sample scored relatively high on the index related to prostate cancer knowledge, but 30% answered three or fewer questions correctly. Income, marital status, education, and type of insurance were significantly related to a respondent's level of knowledge. Having a regular physician and discussing prostate screening with a physician were both positively related to a respondent's level of understanding.

This study indicates that African-American men do not have adequate knowledge about prostate cancer. Although many African Americans may be getting the prostate cancer message, educational efforts need to be strengthened to reach the less affluent and the less educated. These findings also raise questions about why more African-American men are not being screened and why more primary care physicians are not discussing prostate cancer with their African-American patients. (*J Natl Med Assoc.* 1997;89:387-391.)

Key words: prostate cancer ◆ screening ◆ African Americans

Public health experience seems to indicate that when white America catches a cold, black America catches pneumonia. This observation seems especially true with prostate cancer and its effect on African Americans. The incidence of invasive prostate cancer is reportedly 30% higher for African-American men compared with white men, and African Americans are routinely diagnosed with later stages of the disease, making their survival rates uniformly shorter.[1,2] African American's also tend to have higher levels of prostate-specific antigen (PSA) and twice the volume of cancer in their tumors.[3]

During 1995, 244,000 new cases of prostate cancer were expected to result in 42,000 deaths.[4] The American Cancer Society, therefore, recommends

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Table 1. Sample Characteristics*

Characteristic	%
Years at present address	
<3	18.1
4 to 10	24.0
11 to 26	26.0
>26	31.9
Marital status	
Married	47.5
Single	31.5
Other	21.0
Age	
41 to 50	31.5
51 to 65	36.2
>65	32.4
Health care payment source	
Medicaid/Medicare	42.2
Commercial	19.2
Health maintenance organization	18.8
Self	19.9
Education	
<High school	52.2
High school	30.0
>High school	17.8
Income	
<$5000	22.2
$5000 to $9000	21.7
$10,000 to $15,000	16.7
$16,000 to $25,000	21.0
>$25,000	18.4

*N=556.

an annual digital rectal examinination and a prostate specific antigen test for all men older than the age of 50.[5] However, there is little agreement about the specific recommendations[6] or on the advisability and effectiveness of screening programs.[7]

Although screening is controversial and may not alter the course of the disease,[8,9] it offers the only possibility for detecting cancer early in high-isk African-American men. Screening is technically feasible,[10] and it is generally acceptable.[11] However, even when the opportunity for prostate cancer screening is available, many African-Americans–similar to their white counterparts–vehemently refuse rectal examinations.

If the level of risk faced by African-American males is to be reduced, more vigorous prostate screening programs may be indicated in African-American communities. At a minimum, it is necessary to begin educating African Americans about prostate cancer, its effects, and the potential benefits of screening.

This study seeks to answer three questions about African-American males: how much do they know about prostate cancer, what factors affect their levels of knowledge, and how receptive are they to screening? The study hypothesizes that demographic and socioeconomic factors affect the level of knowledge African Americans have about prostate cancer. If these factors impede the education process, they could ultimately inhibit the participation of African-American men in recommended screenings.

METHODS

A survey was used to gather information from a sample of African-American males older than the age of 25. Face-to-face interviews were conducted by an outreach team who was recruited through a community-based organization. Data were gathered during a 10-week period from March 27, 1995 to May 31, 1995. Three census tracts were selected for sampling in the zip code that had the greatest percentage of African Americans and males. In all three census tracts, African Americans accounted for more than 95% of the population.

The outreach team attended two training sessions on how to administer surveys in the community. The sessions addressed topics related to data gathering in the community, confidentiality, safety, and how to administer a questionnaire. The team also learned the anatomy of the prostate gland and how a digital rectal examination and a prostate specific antigen test could help detect whether a man has prostate cancer.

To reduce bias, the outreach team worked various hours and days, but rarely conducted interviews after dark because of the amount of crime in the area. The outreach workers encountered many problems, including unleashed dogs, high temperatures, dangers associated with criminal activity (ie, drug dealing), and lewd remarks by some respondents. One respondent started smoking marijuana while being interviewed.

The survey was designed to gather information on matters broadly related to health and prostate cancer. All respondents (897) were asked if they knew what prostate cancer was. However, only respondents older than the age of 40 (556) were asked to respond to a series of questions specifically related to prostate cancer. The responses to these seven items are used in the following analyses to

Table 2. Percentage Responding Correctly When Asked Questions Regarding Knowledge About Prostate Cancer*†

Question	% Answered Correctly
1. Prostate cancer can be cured if caught early enough.	90.7
2. A digital rectal examination is used to identify prostate problems. How often do you think a man >40 years should have a digital rectal examination?	74.6
3. A man can have prostate cancer without having any pain or other symptoms.	66.4
4. Men with prostate cancer can still live a normal life.	65.4
5. I don't need a digital rectal examination unless I have a problem urinating or am in pain.	57.7
6. Who do you think is more likely to get prostate cancer—a person with or without a family history?	42.2
7. Who do you think is more likely to get prostate cancer—African Americans or whites?	30.0

*Some of the question wording varies slightly from the original.
†N=556.

Table 3. Demographic Factors Related to a Respondent's Level of Knowledge About Prostate Cancer

Demographic	Level of Knowledge		
	Low	Medium	High
Insurance type*			
Medicaid/Medicare	30.3	51.8	17.9
Commercial	30.9	47.4	21.7
Health maintenance organization	16.2	52.5	31.3
Self	39.2	50.5	10.3
Education*			
<High school	34.2	50.2	15.6
High school	16.7	56.2	20.8
>High school	28.9	50.3	27.1
Income†			
<$5000	33.6	53.5	12.9
$5000 to $9000	32.7	50.4	16.8
$10,000 to $15,000	23.0	58.6	18.4
$16,000 to$25,000	27.8	51.8	20.4
>$25,000	27.7	40.4	31.9
Marital status*			
Married	25.3	50.6	24.1
Single	35.5	53.6	10.8
Other	30.0	49.1	20.9
Age (years)			
41 to 50	26.6	53.3	20.1
51 to 65	30.4	52.4	17.3
>65	31.4	47.9	20.7

*$P<.01$.
†$P<.05$.

create an index reflecting the approximate level of knowledge a respondent has about prostate cancer.

Since the index scores provide only a crude indicator of knowledge, respondents were grouped into ordinal categories depending on their number of correct responses. Those with scores of three or less were classified as "low," and those with scores of six or seven were classified as "high." The remaining respondents were classified as "medium." It was hypothesized that education, income, age, insurance type, marital status, family medical history, and whether the respondent had a relationship with a health-care provider would be related to how much a respondent knew about prostate cancer. The analyses used chi-squared tests of independence among categorical variables and were conducted using SAS, version 6.03.

RESULTS

Table 1 displays the demographics of respondents >40 years. Most respondents had lived at their present address for more than 10 years (57.9%) and almost half (47.5%) were married. The median annual income category was $10,000 to $15,000, and more than half (52.2%) of the respondents had less than a high school education.

Respondents were asked seven questions that specifically tested their knowledge about prostate cancer. The questions along with the percentage of respondents selecting the correct response are shown in Table 2. The majority of the sample responded incorrectly to questions dealing with who is more likely to get prostate cancer. Fewer than half (42.2%) knew that family history is a risk factor for prostate cancer, and fewer than one in three (30%) knew that race is related to the likelihood of developing prostate cancer.

A three-level summated-rating scale was created

Table 4. Health-Related Factors Associated With a Respondent's Level of Knowledge About Prostate Cancer

Question & Response	Level of Knowledge		
	Low	Medium	High
Has anyone in your family ever had cancer?*			
Yes	26.6	47.3	26.1
No	31.7	54.1	14.2
Has anyone in your family ever had prostate cancer?*			
Yes	12.7	45.5	41.8
No	31.6	51.9	16.5
Do you have a regular doctor you see for health-care problems?*			
Yes	25.8	51.7	22.5
No	40.6	50.4	9.0
Has a doctor ever talked to you about screening for prostate cancer?*			
Yes	19.2	53.6	27.2
No	39.9	48.7	11.4

*$P \leq .01$.

to reflect a respondent's relative level of knowledge about prostate cancer. Those with low levels of education and income were more likely to have relatively low levels of knowledge (Table 3). Married men were likely to be more knowledgeable than their comparison groups, and those in the self-insured group were most likely to have low levels of knowledge when compared with those having other types of insurance.

The final group of variables examined included two family medical history variables and two variables that asked respondents about their health-care provider (Table 4). Respondents who had a family member with cancer were more knowledgeable about prostate cancer (26.1%) than were those who did not (14.2%). Among those who had a family member with prostate cancer, 41.8% were in the "high" category compared with 16.5% for those not having a family member with prostate cancer.

The results also revealed that more of those with a regular doctor (22.5%) were classified as having "high" levels of knowledge than those who did not admit to having a regular doctor (9%). Those whose physicians spoke with them about prostate screening had greater numbers in the highest knowledge category (27.2%) when they were compared with those whose physicians did not discuss screening (11.4%).

DISCUSSION

The findings reported in this study suggest a number of important conclusions. First, substantial numbers of African-American men do not have adequate knowledge about prostate cancer. Although slightly more than 19% of the sample scored relatively high on questions related to prostate cancer, fully 30% of the sample could only answer three or fewer questions correctly. Second, lower socioeconomic status is related to how much a respondent knows about prostate cancer. This study found that income, marital status, education, and type of insurance were significantly related to knowledge. With the exception of marital status, all of these variables are indicators of a respondent's socioeconomic status. In each case, individuals with relatively little knowledge about prostate cancer had lower values on the socioeconomic status variables.

This study also suggests that physicians may play an important role in educating patients about prostate cancer. In this study, having a regular physician was related to a respondent's understanding of prostate cancer, and whether a participant ever had a discussion with their doctor about prostate screening was associated with their level of understanding. However, among those reporting visits to the same physician, many denied ever having discussed prostate cancer, digital rectal examinations, or prostate specific antigen testing, and many had never undergone a digital rectal examination. Indeed, 38.4% reported that their physician had not ever mentioned prostate screening to them. Most respondents in this study stated that if screening for cancer were available and could make a difference, they would participate. These findings raise questions about why more African-American men

are not being screened, and why more primary care physicians are not discussing prostate cancer with their African-American patients.

The finding that African-American males are receptive to screening supports the findings of a study conducted in Chicago by Meyers et al.[2] In this earlier study of a sample of African-Americans between 50 and 74 years old, 80% of the subjects expressed a willingness to undergo annual screening. In the present study, 74.6% of the participants expressed such a willingness. However, the findings of the two studies diverge in other areas. The most important of these differences is that while 65% of the Chicago sample realized that African Americans are at increased risk for prostate cancer compared with whites, only 30% of this study's sample was as well informed.

It is difficult to compare the responses of the present study's sample with those of the Chicago sample. More than half of the latter group had more than a high school education, whereas the comparable percentage in our study was 17.8%. Additionally, the earlier sample consisted of men who had already had at least one digital rectal examination, which would predispose them to having more knowledge about prostate cancer.

CONCLUSION

These results suggest that many African Americans may be getting the prostate cancer message, but educational efforts need to be strengthened if they are to reach the less affluent and the less educated. These efforts need to be culturally sensitive and easily accessible to African-American men, so that African-American men may collectively become more enlightened about the dangers of prostate cancer. Prostate cancer probably has many promoting factors not yet identified. Moreover, treatment has its own risk and may have a negative impact on the quality of life. However, until more is known about the effects of screening, it should be encouraged for those at greatest risk.

This study demonstrates a method for identifying the level of education about a specific health need in an African-American community. In the present case, it was discovered that there was a need for additional prostate cancer education in the community and that physicians could play a role in providing this education. Based on the results of this investigation, a community outreach effort was organized to raise the level of awareness about prostate cancer in this target population and provide screening to at-risk males. Working with local religious organizations and the American Cancer Society, physicians and others in the medical community have designed a program to overcome barriers to education and screening.

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